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SUBJECT: FUELING MOROCCO'S FUTURE ENERGY NEEDS

REF: RABAT 681

11. Sensitive but unclassified - protect accordingly

12. (SBU) Summary. Morocco's GDP has grown by over 5 percent per year for the past five years, foreign direct investment is poised to set a record high for the third consecutive year, and the rapidly growing tourism industry has spurred a construction boom. The GOM must increase the country's energy supply in order to keep up with increasing demand, but this is complicated by record high oil prices. The GOM has ambitious plans to accelerate economic growth and modernize its energy sector infrastructure in the next decade. By 2017, it plans to diversify energy sources by building a LNG terminal, constructing numerous power plants (including nuclear), and more than doubling the capacity of its refineries. If successful, this would provide a well diversified energy sector that would be integrated with that of its neighbors. With few domestic energy sources currently developed the GOM will continue to depend on imported fuel. End summary.

13. (U) Morocco is highly dependent on imported energy sources to power its economy. In 2006, 96 percent of the country's energy needs were imported including petroleum products (59 percent), coal (29.7 percent), imported electricity (4 percent) and natural gas (3.3 percent). Domestic sources of energy included hydro electricity (3.2 percent), wind generated electricity (0.4 percent) and natural gas and petroleum combined (0.4 percent). Said El Aoufir, Director of Combustibles at the Ministry of Energy (MOE) told econoff that the GOM seeks to diversify its energy fuel supply and achieve something close to the international average of petroleum products (36.4 percent), coal (27.85 percent), natural gas (23.5 percent), and hydro electricity (6.3 percent). While the National Electricity Office (ONE) is exploring the possibility of a nuclear plant, the MOE is not banking on this possibility.

OPPORTUNITY

14. (U) El Aoufir stated that renewable energy represents Morocco's greatest opportunity in the field of energy. The country has vast wind resources to power wind mills and large amounts of sunshine for photovoltaic power generation, although these forms of energy are comparatively expensive to produce. Currently, renewable energy accounts for approximately 3.6 percent of total energy consumed, but by 2012 the GOM hopes it will increase to 10 percent of total energy needs and help reduce dependence on imported fuels. In comparison, by 2020 the European Union (EU) targets a renewable energy supply of 20 percent in order to achieve its strict environmental protection targets. In order to reach this ambitious goal, the EU might need to import electricity produced from renewable sources in Morocco, creating a valuable export product for Morocco. Morocco's electricity grid is already connected to those of Spain and Algeria and it trades electricity on an as needed basis. In the future, as Morocco increases its electricity supply, it plans to export

electricity to its neighbors in Africa and Europe.

----- THE CHALLENGE -----

15. (SBU) High petroleum prices represent Morocco's greatest energy challenge according to El Aoufir. Government subsidies on petroleum products have put great pressure on the GOM's budget for several years. The 2007 budget was based on oil imports in the range of \$56-\$66 per barrel, but this is well below current prices in excess of \$80 per barrel. The GOM spent approximately \$850 million for subsidies on gasoline and diesel in 2006 and El Aoufir said this could increase to \$1 billion in 2007. In addition, the rising number of vehicles in Morocco will continue to compound this problem.

16. (U) Morocco's three leading sources of petroleum products are Saudi Arabia (41 percent), Iran (33.8 percent) and Russia (25.2 percent). Currently, 29 companies are exploring for oil in Morocco and the GOM is optimistic oil will eventually be found (septel), but the country will undoubtedly remain vulnerable to the whims of the international oil market. However, El Aoufir was confident that Morocco could comfortably continue to source the fuel supplies it needs.

17. (SBU) In 2006, diesel accounted for approximately 46 percent of Morocco's petroleum-based fuel consumption and this has witnessed steady growth of 3 to 5.3 percent since 2000. Gasoline use has been relatively steady at approximately 5 percent of petroleum-based fuel consumption and the phasing out of leaded gasoline will be completed in 2009. Fuel oil represented 22.4 percent of Morocco's petroleum-based fuel consumption in 2006, but its use dropped 7.4 percent compared to 2005 because the GOM found it more cost effective to import electricity from Spain than produce it from fuel oil. Butane accounted for an especially important 18.9 percent of consumption because it is the favored fuel for cooking and heating water in Morocco. Because of this the GOM spends approximately \$500 million per year subsidizing the price of butane. The last major component of Morocco's petroleum-based fuel consumption is jet fuel, which grew by 42.9 percent between 2003 and 2006 due to the growing tourism sector.

----- REFINERIES -----

18. (U) Morocco's two refineries in Mohammedia and Sidi Kasem (near Fez) have annual refining capacities of 6.5 million tons and 1.5 million tons respectively. The Mohammedia plant is being modernized to meet new environmental standards and will be finished in 2009. Currently, it produces diesel containing 10,000 parts per million (ppm) of sulfur, but by 2009 this will be reduced to 50 ppm. Since 2005, the EU has required diesel fuel sold in its markets not to exceed 50 ppm of sulfur and in 2010 this will be reduced to 10 ppm.

19. (SBU) El Aoufir felt that Morocco had adequate refining capacity to meet its domestic needs at existing growth rates until 2015 or 2016. However, he added that the GOM is exploring the possibility of constructing a refinery in Jorf Lasfar with a capacity of 7 to 10 million tons per year. The project would be financed by foreign investors and 80 percent of its production would be for export, integrating Morocco further into the energy markets of its neighbors.

----- DIVERSIFICATION -----

110. (SBU) In order to diversify its fuel supplies, the GOM is also investigating the idea of building a \$1.4 billion liquefied natural gas (LNG) terminal to supply gas to power the various power plants it plans to build in the future (see reftel). The LNG would be used instead of coal, which currently produces most of Morocco's electricity. Morocco's electric consumption has grown by 8 percent per year since 2002 and several new power plants will be needed in the near future. El Aoufir reported that the country still has

adequate electricity generation capacity if it uses its comparatively expensive fuel oil powered generators (which have a combined capacity of 615 megawatts, MW), but in recent years the GOM has found it more cost effective to import electricity from Spain.

¶11. (SBU) The proposed LNG terminal would be completed in the 2013-2015 timeframe and would likely be situated near Tangier or Jorf Lasfar with a pipeline running along the Atlantic coast. The GOM is still not certain who would supply the LNG for the project, but most new power plants in Morocco are being designed to use LNG. In 2009, an existing 230 MW power plant fueled by natural gas in Ain Beni Mathar near the Algerian border will be expanded to 450 MW. It will use natural gas Morocco receives from Algeria for the right of way for the pipeline through the country. The GOM plans to open two more electric plants in 2013 that will eventually be supplied by the proposed LNG terminal.

¶12. (SBU) Morocco has made initial forays into the nuclear energy sector and currently has a 2 MW research reactor that the ONE feels could act as a training tool for an eventual 1000 MW nuclear power plant. ONE is leading the initiative to pursue nuclear energy and it has generally been more pessimistic about Morocco's readiness to produce an adequate supply of electricity in the near term than has the MOE (see reftel). Reportedly, ONE has developed a short list of three companies that could construct the proposed nuclear power plant in the 2016-2017 timeframe. Currently, ONE is working with Russia's Atomstroyexport on a feasibility study for the project whose probable site has not been made public (see septel).

COMMENT

¶13. (SBU) Like other resource poor countries, Morocco is at the mercy of the international energy market. MOE officials see hope, however, as a result of the intensified oil exploration that has resulted from high international energy prices, and the country's wind and solar energy potential. The GOM receives sporadic domestic criticism that it is not moving fast enough to assure that the country will have an adequate supply of energy, and that rising prices could undermine its plans. However, the GOM is moving ahead with plans, which if successful, should assure that it has a sufficient production margin to satisfy anticipated demand.
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